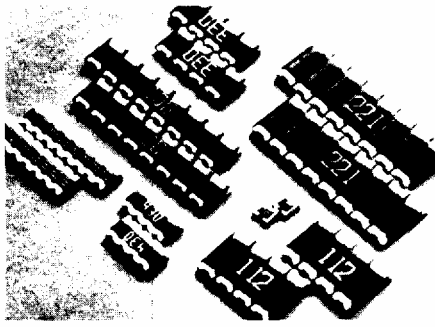


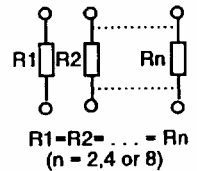
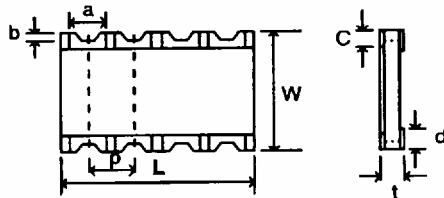
FLAT CHIP RESISTOR ARRAY



- Manufactured to Type RM Standards
- Marked with Resistance Value
- Less Board Space than Individual Chips
- Isolated Resistor Elements

| SIZE CODE | L | W | C | d | t | a (ref.) | b (ref.) | p (ref.) |
|-----------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|-----------------|
| 1E2 | 0.039 ± 0.004 1.0±0.1 | 0.039 ± 0.004 1.0±0.1 | 0.006 ± 0.004 0.15±0.1 | 0.012 0.33 max | 0.014 ± 0.004 0.35±0.1 | 0.020 0.5 | 0.006 0.15 | 0.026 0.65 |
| 1J4 | 0.126 ± 0.008 3.2±0.2 | 0.063 ± 0.008 1.6±0.2 | 0.012 ± 0.008 0.3±0.2 | 0.016 ± 0.006 0.4±0.15 | 0.024 ± 0.004 0.6±0.1 | | | 0.031 0.8 |
| 1J8 | 0.252 ± 0.008 6.4±0.2 | | | | | 0.079 ± 0.008 2.0±0.2 | 0.016 ± 0.012 0.4±0.3 | |
| 2A4 | 0.2 ± 0.008 5.08±0.2 | 0.126 ± 0.008 3.2±0.2 | 0.020 ± 0.012 0.5±0.3 | 0.031 0.8 | 0.050 1.27 | | | |
| 2A8 | 0.4 ± 0.008 10.16±0.2 | | | | | 0.2 ± 0.008 5.08±0.2 | 0.4 ± 0.008 10.16±0.2 | 0.031 0.8 |
| 2B4 | 0.2 ± 0.008 5.08±0.2 | 0.4 ± 0.008 10.16±0.2 | 0.4 ± 0.008 10.16±0.2 | 0.031 0.8 | 0.050 1.27 | | | |
| 2B8 | 0.4 ± 0.008 10.16±0.2 | | | | | 0.4 ± 0.008 10.16±0.2 | 0.4 ± 0.008 10.16±0.2 | 0.031 0.8 |

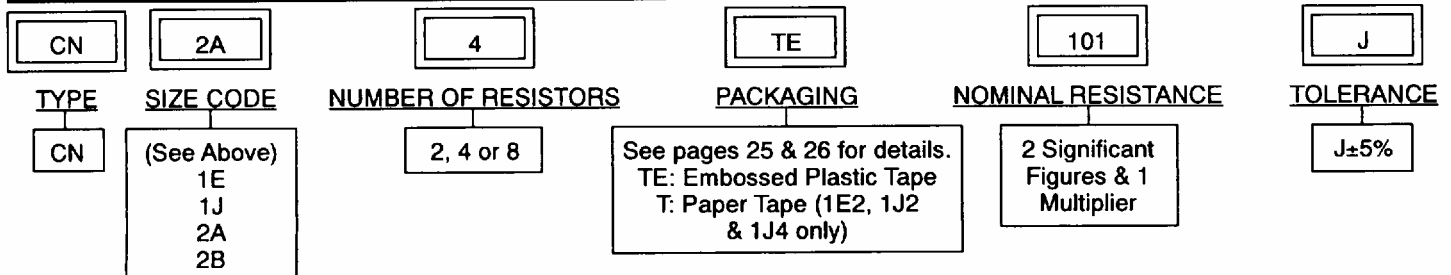
CIRCUIT CONSTRUCTION



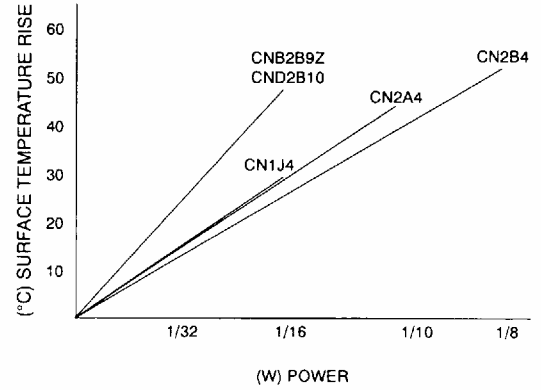
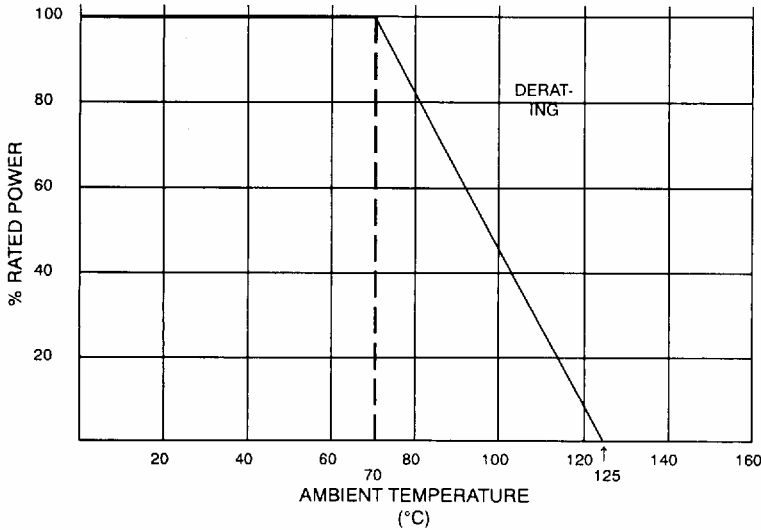
STANDARD APPLICATIONS

| TYPE | Power Rating @ 70°C (per element) | TCR (ppm/°C) max. | Resistance Range (E-24 values) | Resistance Tolerance | Absolute Maximum Working Voltage | Maximum Overload Voltage (5 secs. max.) | Operating Temperature Range |
|------|-----------------------------------|-------------------|--------------------------------|----------------------|----------------------------------|---|-----------------------------|
| CN1E | 63mW | ±300 | 10 Ω - 1 MΩ | J (±5%) | 25V | 50V | -55 - +125°C |
| CN1J | | | | | 50V | 100V | -55 - +125°C |
| CN2A | 100mW | | | | 100V | 200V | |
| CN2B | 125mW | | | | 200V | 400V | |

ORDERING & SPECIFYING INFORMATION



PACKAGING SPECIFICATIONS



| PARAMETER | MAXIMUM DELTA R | TEST METHOD |
|---------------------------------|----------------------------|--|
| Thermal Shock | $\pm(1\% \pm 0.1\Omega)$ | MIL-STD-202F, Method 107D -55°C ~ +125°C, 5 cycles |
| Low Temperature Operation | $\pm(1\% + 0.1\Omega)$ | MIL - R - 55342D π 4.7.4 1 Hour @ -55°C followed by 45 minutes of RCWV** |
| High Temperature Exposure | $\pm(1\% + 0.1\Omega)$ | MIL - R - 55342D π 4.7.6 100 Hours @ 125°C |
| Short Time Overload | $\pm(2.0\% + 0.05\Omega)$ | MIL - R - 55342D π 4.7.5 2.5 X RCWV* for 5 seconds |
| Resistance to Solder Heat | $\pm(1\% + 0.1\Omega)$ | MIL - R - 55342D π 4.7.7 260°C for 10 seconds |
| Terminal Strength-Push | $\pm(1\% + 0.1 \Omega)$ | 1.2 Kg for 1 minute |
| Terminal Strength-Bend | $\pm(0.5\% + 0.05 \Omega)$ | 5mm Deflection in Either Direction for 10 Seconds |
| Moisture Resistance | $\pm 5\%$ | MIL - STD - 202F, Method 106E 10 Cycles, 240 Hours |
| Life | $\pm 5\%$ | MIL - STD - 202F, Method 108A 70°C, 1000 Hours @ RCWV*, 1.5 Hr ON, 0.5 Hr OFF |
| Pulse | $\pm 5\%$ | 2.5 X RCWV*, Not Exceeding Maximum Overload Voltage, 1 Second ON, 25 seconds OFF 10,000 Cycles |
| Temperature Cycling | $\pm 1.0\%$ | 30 Minutes @ -55°C; 15 Minutes at +25°C, 30 Minutes at +125°C, 15 Minutes at +25°C, 5 Cycles |
| Terminal Adhesion | 15 Grams, Minimum | Axial Pull, One Terminal at a Time |
| Dielectric Withstanding Voltage | | |
| CN1J | 100V | |
| CN2A | 200V | |
| CN2B | 400V | |
| CNB & CND | 100V | |
| Insulation Resistance | 10,000 Meg Ohm | |

*RCWV = Rated Continuous Working Voltage

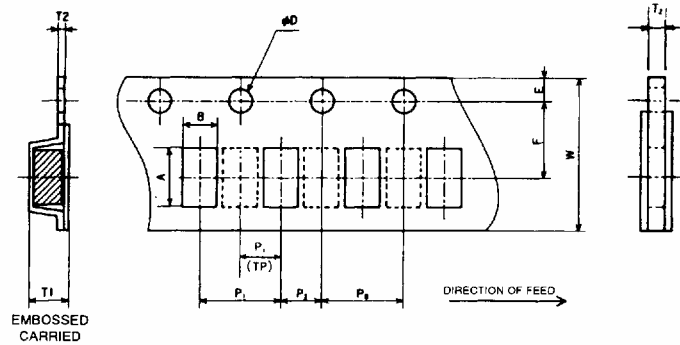
PACKING SPECIFICATIONS

| PART | TD: PUNCHED PAPER | TE: EMBOSSSED PLASTC | BULK | STICK PACK |
|---------|-------------------|----------------------|-------|------------|
| CR2B | 5000/10000 | 4000/10000 | 1000 | ----- |
| CN1J2 | 5000 | ----- | ----- | ----- |
| CNAJ4 | 5000 | ----- | ----- | ----- |
| CN1J8 | ----- | 4000 | ----- | ----- |
| CN2A2 | ----- | 4000 | ----- | ----- |
| CN2A4 | ----- | 4000 | ----- | ----- |
| CN2A8 | ----- | 4000 | ----- | ----- |
| CN2B2 | ----- | 4000* | ----- | ----- |
| CN2B4 | ----- | 2000 | ----- | ----- |
| CN2B8 | ----- | 2000 | ----- | ----- |
| CNB2E5Z | ----- | 4000 | ----- | ----- |
| CNB2B9Z | ----- | 4000 | ----- | ----- |
| CND2B10 | ----- | 4000 | ----- | ----- |
| HM16 | ----- | 2000 | ----- | 50 |
| HN16 | ----- | 2000 | ----- | 50 |

*Also available on 330mm (13") reel with 7500 pcs.

PACKAGING SPECIFICATIONS

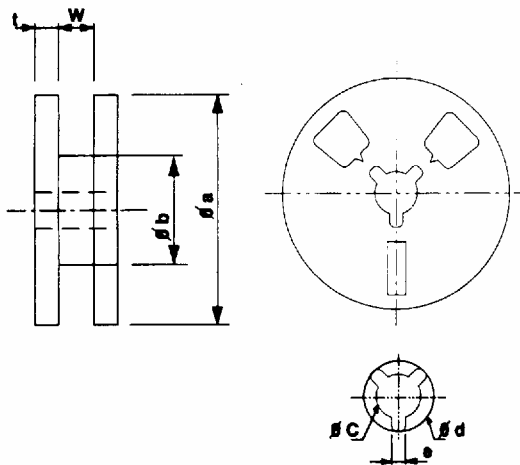
CARRIER TAPE



DIMENSIONS (mm)

| PACKAGING | SIZE CODE | A | B | W | E | F | T1 | T2 | P0 | P1 | P2 | ØD |
|-----------------------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------------|
| (T) PAPER TAPE | CR2B | 3.5±0.1 | 1.9±0.1 | 8.0±0.2 | 1.75±0.1 | 3.5±0.05 | ----- | 0.45±0.1 | 4.0±0.1 | 2.0±0.05 | 2.0±0.05 | 1.5+0.1 -0 |
| | CN1J2 | 1.9±0.1 | " | " | " | " | ----- | 0.6±0.05 | " | ----- | " | " |
| | CN1J4 | 3.5±0.1 | " | " | " | " | ----- | 0.75±0.1 | " | 4.0±0.1 | " | " |
| (TE) EMBOSSED PLASTIC | CR2B | 3.5±0.1 | 1.9±0.2 | 12.0±0.3 | " | " | 1.0±0.1 | " | " | " | " | " |
| | CN1J8 | 6.9±0.1 | 2.0±0.1 | " | " | 5.5±0.05 | 1.0 MAX | 0.30±0.1 | " | 4.0±0.1 | 2.0±0.05 | " |
| | CN2A2 | 2.95±0.1 | 2.4±0.1 | 8.0±0.2 | " | 3.5±0.05 | " | " | " | " | " | " |
| | CN2A4 | 5.4±0.1 | " | 12.0±0.3 | " | 5.5±0.05 | " | " | " | " | " | " |
| | CN2A8 | 10.5±0.1 | " | 16.0±0.3 | " | 7.5±0.1 | " | 0.25±0.1 | " | " | 2.0±0.1 | " |
| | CN2B2 | 2.95±0.1 | 3.6±0.1 | 8.0±0.2 | " | 3.5±0.05 | " | " | " | 8.0±0.1 | 2.0±0.05 | " |
| | CN2B4 | 5.45±0.1 | " | 12.0±0.3 | " | 5.5±0.05 | " | 0.3±0.1 | " | " | " | " |
| | CN2B8 | 10.5±0.1 | " | 16.0±0.3 | " | 7.5±0.1 | " | " | " | " | 2.0±0.1 | " |
| HM16 HN16 | 11.6±0.1 | 8.2±0.1 | 24.0±0.3 | " | 11.5±0.1 | 2.6±0.1 | 0.4±0.05 | " | 12.0±0.1 | ----- | " | |

REEL SPECIFICATIONS



| SIZE CODE | DIMENSION (mm) | | | | | | |
|-----------|----------------|--------|---------------|---------|--------|--------|----------------|
| | Øa | Øb | w | t | Øc | Ød | e |
| CR2B | | | | | | | |
| CN1J2 | | | | | | | |
| CN1J4 | 178±2.0 | 80±2.0 | 10±1.0 | 1.5±.05 | 13±0.5 | 27±20 | 3.0±0.5 |
| CN2A2 | | | | | | | |
| CN2B2 | | | | | | | |
| CN1J8 | " | " | 14±1.0 | " | " | " | " |
| CN2A4 | | | | | | | |
| CN2B4 | | | | | | | |
| CN2A8 | " | 60±2.0 | 16.4 +2 -0 | " | " | 21±2.0 | 2.0 +0.5 -0 |
| CN2B8 | | | | | | | |
| HM16 | 330±2.0 | " | 25.5±1.0 | " | " | 23±1.0 | 2.0 +0.5 -0 |
| HN16 | | | | | | | |